Wireless-B Media Adapter

Use this guide to install:

WMA11B

User Guide

LINKSYS®

COPYRIGHT & TRADEMARKS

Specifications are subject to change without notice. Linksys is a registered trademark or trademark of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries. Other brands and product names are trademarks or registered trademarks of their respective holders.

LIMITED WARRANTY

Linksys warrants to the original end user purchaser ("You") that, for a period of one year, (the "Warranty Period") Your Linksys product will be free of defects in materials and workmanship under normal use. Your exclusive remedy and Linksys's entire liability under this warranty will be for Linksys at its option to repair or replace the product or refund Your purchase price less any rebates.

If the product proves defective during the Warranty Period call Linksys Technical Support in order to obtain a Return Authorization Number. BE SURE TO HAVE YOUR PROOF OF PURCHASE ON HAND WHEN CALLING. When returning a product, mark the Return Authorization Number clearly on the outside of the package and include a copy of your original proof of purchase. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE. You are responsible for shipping defective products to Linksys. Linksys pays for UPS Ground shipping from Linksys back to You only. Customers located outside of the United States of America and Canada are responsible for all shipping and handling charges.

ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to You. This warranty gives You specific legal rights, and You may also have other rights which vary by jurisdiction.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT, EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT.

The foregoing limitations will apply even if any warranty or remedy provided under this Section fails of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to You.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

SAFETY AND REGULATORY NOTICES

FCC STATEMENT

The Wireless-B Media Adapter has been tested and found to comply with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

FCC Caution: Any change or modification to the product not expressly approved by Linksys could void the user's authority to operate the device.

FCC RF Radiation Exposure Statement

To comply with the FCC and ANSI C95.1 RF exposure limits, the antenna(s) for this device must comply with the following:

- Access points with 2.4 GHz or 5 GHz integrated antenna must operate with a separation distance of at least 20 cm from all persons using the cable provided and must not be co-located or operating in conjunction with any other antenna or transmitter.

End-users must be provided with specific operations for satisfying RF exposure compliance.

Note: Dual antennas used for diversity operation are not considered co-located.

INDUSTRY CANADA (CANADA)

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations.

EC DECLARATION OF CONFORMITY (EUROPE)

Linksys Group declares that the Wireless-B Media Adapter conforms to the specifications listed below, following the provisions of the EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC:

- ETS 300-826, 301 489-1 General EMC requirements for Radio equipment.
- EN 609 50 Safety
- ETS 300-328-2 Technical requirements for Radio equipment.

Note: This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. For more details, contact Linksys Corporate Compliance.

Note: Combinations of power levels and antennas resulting in a radiated power level of above 100 mW are considered as not compliant with the above mentioned directive and are not allowed for use within the European community and countries that have adopted the European R&TTE directive 1999/5/EC and/or the CEPT recommendation Rec 70.03. For more details on legal combinations of power levels and antennas, contact Linksys Corporate Compliance.

- Linksys Group vakuuttaa täten että Wireless-B Media Adapter tyyppinen laite on direktiivin 1999/5/EY, direktiivin 89/336/EEC ja direktiivin 73/23/EEC oleellisten vaatimusten ja sitä koskevien näiden direktiivien muiden ehtojen mukainen.
- Linksys Group déclare que le Wireless-B Media Adapter est conforme aux conditions essentielles et aux dispositions relatives à la directive 1999/5/EC, la directive 89/336/EEC, et à la directive 73/23/EEC.
- Belgique B L'utilisation en extérieur est autorisé sur le canal 11 (2462 MHz), 12 (2467 MHz), et 13 (2472 MHz). Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.
- France F: Bande de fréquence restreinte: seuls les canaux 10, 11, 12, 13 (2457, 2462, 2467, et 2472 MHz respectivement) doivent être utilisés en France. Toute utilisation, qu'elle soit intérieure ou extérieure, est soumise à autorisation. Vous pouvez contacter l'Autorité de Régulation des Télécommuniations (http://www.art-telecom.fr) pour la procédure à suivre.
- France F: Restricted frequency band: only channels 10, 11, 12, 13 (2457, 2462, 2467, and 2472 MHz respectively) may be used in France. License required for every indoor and outdoor installations. Please contact ART for procedure to follow.
- Deutschland D: Anmeldung im Outdoor-Bereich notwending, aber nicht genehmigungspflichtig. Bitte mit Händler die Vorgehensweise abstimmen.
- Germany D: License required for outdoor installations. Check with reseller for procedure to follow.
- Italia I: E' necessaria la concessione ministeriale anche per l'uso interno. Verificare con i rivenditori la procedura da seguire. L'uso per installazione in esterni non e' permessa.
- Italy I: License required for indoor use. Use with outdoor installations not allowed.
- the Netherlands NL License required for outdoor installations. Check with reseller for procedure to follow.
- Nederlands NL Licentie verplicht voor gebruik met buitenantennes. Neem contact op met verkoper voor juiste procedure.

Table of Contents

Chapter 1: Introduction

The Wireless-B Media Adapter

The Linksys Wireless-B Media Adapter lets you bring the digital pictures and music stored on your computer to your Home Entertainment Center, without running cables through the house. Using a wireless connection, the Media Adapter displays your digital photographs on the TV for the whole family to enjoy. And your digital music collection is finally freed from those little computer speakers and can play in full glory through your stereo system.

The Wireless-B Media Adapter sits by your home stereo and television and connects to them using standard consumer electronics cables. Then it connects to your home network by Wireless-B (802.11b) wireless networking, or if you prefer, it can be connected via standard 10/100 Ethernet cabling. Using the included remote control and the user-friendly menus on your TV, you can browse through the digital pictures on your computer by folder, filename, or thumbnail. You can view pictures one at a time, or watch an automatically created slideshow of all the pictures in a given folder. The Media Adapter supports four popular picture formats: JPG, GIF, TIF and BMP. Use the remote control's Zoom button to get a close-up of the details in your pictures.

You can also use the remote to browse your MP3 or WMA formatted music collection by title, artist, genre, folder, or playlist. Choose the music you want, and let the Wireless-B Media Adapter play it through your stereo system. You can even let music play in the background while you browse your pictures.

Let the Linksys Wireless-B Media Adapter bring your digital media out into the living room for the whole family to enjoy.

Features

- Supports popular audio formats (MP3 and WMA), image formats (JPG, GIF, TIF and BMP), and playlist formats (M3U and ASX)
- S-Video output for best video quality
- RCA connectors for left and right stereo audio output and composite video output
- Easy TV setup and convenient Setup Wizard for configuration
- User-friendly utility runs on your PC to manage music and picture folders
- Wireless security with up to 128-bit WEP encryption
- Compatibility with 802.11b (2.4GHz) standard
- Up to 11 Mbps, high-speed wireless data transfer rate
- RJ-45, 10/100 Mbps Ethernet connection

Chapter 2: Planning Your Use of the Wireless-B Media Adapter

Overview

Before you set up the Adapter, you need to decide how your Windows XP computer will send digital music or pictures to the Adapter; you have a choice of a wireless or wired connection. This information is necessary for the proper setup and configuration of the Adapter.

Note: The Adapter is designed to work only with Windows XP computers.

Using the Adapter as Part of Your Wireless Network

If your wireless-equipped, Windows XP computer connects directly to the Adapter, or it connects via an access point or wireless router (see Figure 2-1), then the Adapter is part of your wireless network. If any part of the connection to the Adapter is wireless, then the overall connection will be considered wireless. The computer that sends the Adapter pictures and music is also referred to as the host computer. You must install the Adapter's Utility on this computer.

Figure 2-1

Using the Adapter as Part of Your Wired Network

If your wired Windows XP computer connects directly to the Adapter, or it connects via a router or switch (see Figure 2-2), then the Adapter is part of your wired network. Within a wired network, the devices are connected with cables. The computer that sends the Adapter pictures and music is also referred to as the host computer. You must install the Adapter's Utility on this computer.

Figure 2-2

Chapter 3: Getting to Know the Wireless-B Media Adapter and Its Remote Controller

Front Panel

On the Adapter's front panel, it has three LEDs to let you know how the Adapter is functioning. There is also a Power button.

Ready — *Green*. The Ready LED flashes when the Adapter is establishing a connection to the host computer. It stops flashing and stays lit when the Adapter is connected to the host computer.

Wireless — *Green*. The Wireless LED lights up when there is a connection to a wireless network. It flashes when data is transmitted to or received from the wireless network.

Ethernet — *Green*. The Ethernet LED lights up when there is a connection to a wired network. It flashes when data is transmitted to or received from the wired network.

(Power) — The Power button allows you to power on and off the Adapter.

Figure 3-1

Back Panel

On the Adapter's back panel, it features seven ports and two buttons.

Figure 3-2

Power The Power port is where you will connect the power adapter.

LAN The LAN port is where you will connect the Ethernet network cable.

Uplink If the Adapter is connected to a wired network device, the Uplink button is what you will push depending on whether the device is a PC or switch. If the Adapter is connected to a PC, then the Uplink button should be pushed in. If the Adapter is connected to a switch, then the Uplink button should NOT be pushed in.

Video The Video port is where you will connect the video cable.

Left and Right The Left and Right ports are where you will connect the left and right audio cables.

S-Video The S-Video port is where you will connect the S-video cable.

Reset The Reset button is what you will push if you need to reset the Adapter.

Note: When you reset the Adapter, press the **Reset** button and hold it in for 10 seconds.

(Antenna) The Antenna port is where you will attach the antenna.

Remote Controller

The Adapter includes a Remote Controller, which features several buttons allowing you to control the Media Navigator. Use the remote to move through the Navigator's Music, Pictures, or Help menus on your TV.

To install the batteries, follow these instructions:

1. On the back of the remote, remove the battery panel.
2. Insert the included AAA batteries into the battery compartment. Make sure you align the batteries according to the compartment's diagrams.
3. Replace the battery panel.

Here are descriptions of the remote's various buttons.

Power - Turns the Adapter on or off.

Menu - Displays the main menu.

Music - Displays the Music menu.

Pictures - Displays the Pictures menu.

Setup - As the Adapter is connecting to the TV, press this button to view the *TV Setup* screen. For more details, refer to "Chapter 7: Connecting the Wireless-B Media Adapter to Your TV and Stereo."

Select and arrows - Use the Select button to make a selection, like the Enter key on your computer's keyboard. Use the arrow keys to move through menus, songs, or pictures.

Figure 3-3

Page up and down - Use these buttons to scroll through lists of songs or pictures.

Volume up and down - Press these buttons to control the volume.

Zoom in and out - Use these buttons to make on-screen pictures larger or smaller.

Previous - Press this button to return to the previous screen.

Options - Displays the Music Options menu or the Picture Options menu.

Back - Goes back to the previous song or picture.

Next - Goes to the next song or picture.

Play/Pause - Plays or pauses the song or slideshow.

Stop - Stops the song or slideshow, depending on which menu you are in.

Chapter 4: Connecting the Wireless-B Media Adapter to Your Network for Setup

Overview

Connect the Adapter to a network or computer (see Figures 4-1 and 4-2), and then proceed to the appropriate section for your setup.

If you want to set up the Adapter directly from your TV (without using your computer), then proceed to "Chapter 7: Connecting the Wireless-B Media Adapter to Your TV and Stereo."

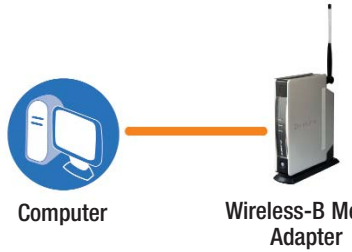

Figure 4-1

Figure 4-2

Connection to a Wireless Network for Setup

Note: Your host computer must be using Windows XP Wireless Zero Configuration so the Setup Wizard will configure the Adapter correctly. If your computer is not using Windows XP Wireless Zero Configuration, then proceed to the next section, "Connection to a Wired Network for Setup", and use a wired connection to the Adapter instead.

1. Attach the antenna to the Adapter.
2. Connect the included power adapter to the Power port on the Adapter (see Figure 4-3).
3. Plug the power adapter into an electrical outlet.

Figure 4-3

4. Press the Adapter's power button, which is located on the Adapter's front panel.

5. The Wireless LED will light up. If it does not, then power the Adapter off and back on again.

Proceed to "Chapter 5: Setting up the Wireless-B Media Adapter."

Connection to a Wired Network for Setup

1. Attach the antenna to the Adapter.

2. Connect the included Ethernet network cable to your PC, router, or switch.

3. Connect the other end of the cable to the LAN port on the Adapter (see Figure 4-4).

4. Connect the included power adapter to the Power port on the Adapter (see Figure 4-5).

Figure 4-4

5. Plug the power adapter into an electrical outlet.

6. Press the Adapter's power button, which is located on the Adapter's front panel.

Figure 4-5

7. The Ethernet LED will light up. If it does not, then push the Uplink button on the Adapter's back panel. Power the Adapter off and back on again. Make sure the cable connections are secure.

Proceed to "Chapter 5: Setting up the Wireless-B Media Adapter."

Chapter 5: Setting up the Wireless-B Media Adapter

Overview

The Wireless-B Media Adapter Setup Wizard will guide you through the installation and configuration procedure.

Setup Wizard

1. Insert the Setup CD-ROM into your CD-ROM drive. The Setup Wizard should run automatically, and Figure 5-1 should appear. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter **D:\setup.exe** (where "D" is the letter of your CD-ROM drive).

Figure 5-1

Setup - Click the **Setup** button to begin the installation process.
Install Utility on PC - Click the **Install Utility on PC** button to install the Adapter's Utility on your PC.
User Guide - Click the **User Guide** button to open the PDF file of this User Guide.
LINKSYS Web - Click the LINKSYS Web button to visit the Linksys website, *www.linksys.com*.
Exit - Click the **Exit** button to exit the Setup Wizard.

2. To install the Adapter, click the **Setup** button on the *Welcome* screen.

3. When you see the screen shown in Figure 5-2, make sure the Adapter's Wireless or Ethernet LED is flashing. This indicates that the Adapter is properly connected to either a wireless or wired network. Then click the **Next** button to continue.

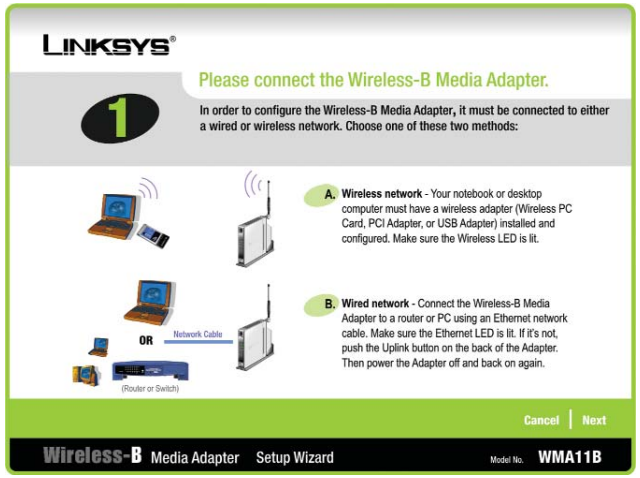

Figure 5-2

4. The screen shown in Figure 5-3 displays a list of Wireless-B Media Adapters on your network, along with the settings information for each Adapter. (If you have only one Adapter on your network, it will be the only one displayed.) Select the Adapter you are currently installing by clicking its name in the *Adapters Found* box. Then click the **Next** button.

Figure 5-3

5. On the screen shown in Figure 5-4, choose whether the Adapter will be connected to your wireless or wired network AFTER you have configured it.

   If you will use the Adapter as part of a wireless network, then click the **Yes** button for the *Wireless network* choice.

   If you will use the Adapter as part of a wired network, then click the **Yes** button for the *Wired network* choice.

   Click the **Next** button.

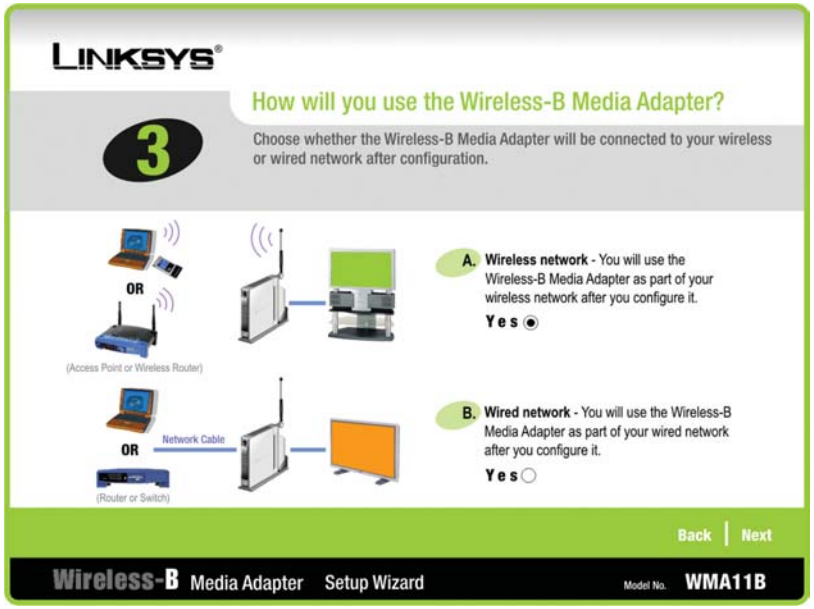

Figure 5-4

6. On the *Basic Settings* screen, enter a unique name for the Adapter.

   If your network has a router or DHCP server, select **Automatically** for the *Network Setting*, and click the **Next** button. Then go to Step 7.

   If the Adapter requires a static IP address, select **Static IP** for the Network Setting. Then enter an IP Address and Subnet Mask appropriate for your network. You must specify an IP Address and Subnet Mask for the Adapter on this screen. Click the **Next** button, and go to Step 7.

Note: If you set a static IP address on the Adapter, then you may also need to set a static IP address on your PC. For instructions, go to "Appendix C: Setting a Static IP Address on Your PC" after you have set up the Adapter.

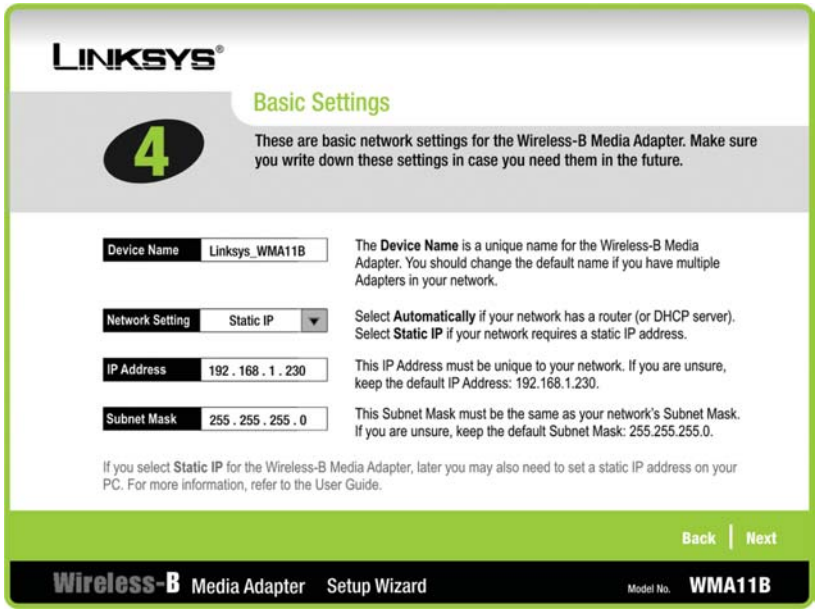

Figure 5-5

7. If you clicked the **Yes** button for the *Wired network* choice in Step 5, then go to Step 9.

   If you clicked the **Yes** button for the *Wireless network* choice in Step 5, then the screen shown in Figure 5-6 will appear. The Mode setting shows a choice of two wireless modes. Select **Infrastructure** if you want the Adapter to communicate using an access point or wireless router. Select **Ad-Hoc** if you want the Adapter to communicate without using an access point or wireless router.

   In the *SSID* field, enter your wireless network's SSID or name. This is the unique name shared by all devices in a wireless network. The SSID is case-sensitive and should have 32 characters or fewer.

   Select the channel at which the network broadcasts its wireless signal (available only if you selected *Ad-Hoc* for the Mode setting).

   Click the **Next** button.

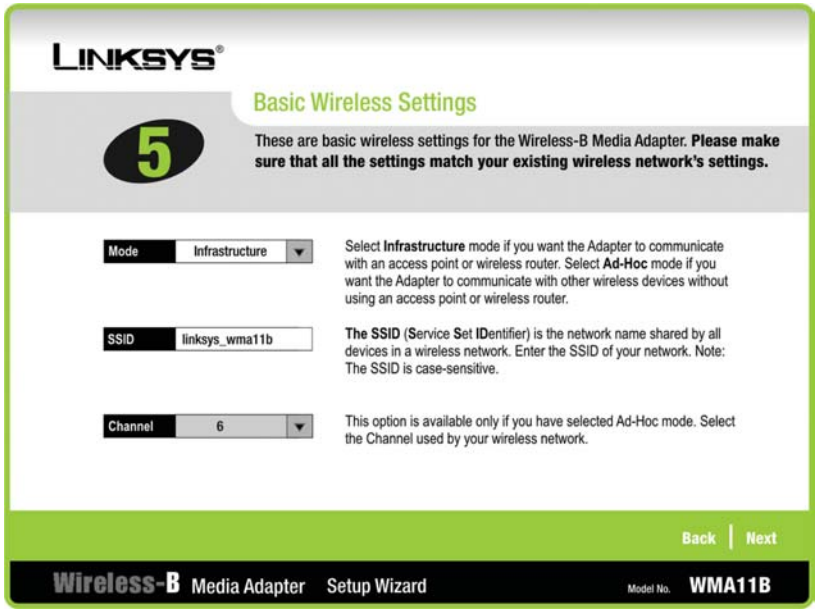

Figure 5-6

8. The *Wireless Security Settings* screen, shown in Figure 5-7, appears next. If you want to enable WEP encryption for greater wireless security, select the level of WEP encryption, **64-bit** or **128-bit**, and then enter a Passphrase. If you want to enter the WEP key manually, then complete the *KEY #1* field. If you want to disable WEP encryption, keep the default, **Disabled**. Click the **Next** button to continue.

Figure 5-7

Passphrase - Instead of manually entering a WEP key, you can enter a Passphrase, so a WEP key will be automatically generated after you click the **Next** button. The Passphrase is case-sensitive and should have 16 alphanumeric characters or fewer. It must match the passphrase of your wireless network and is compatible with Linksys wireless products only. (You will have to enter the WEP key(s) manually on any non-Linksys wireless products.)

KEY #1 - If you are using 64-bit WEP encryption, then the key must consist of exactly 10 hexadecimal characters. If you are using 128-bit WEP encryption, then the key must consist of exactly 26 hexadecimal characters. Valid hexadecimal characters are "0"-"9" and "A"-"F".

9 . Review your settings on the screen shown in Figure 5-8, before the Setup Wizard starts to copy your files. Click the **Save** button to continue.

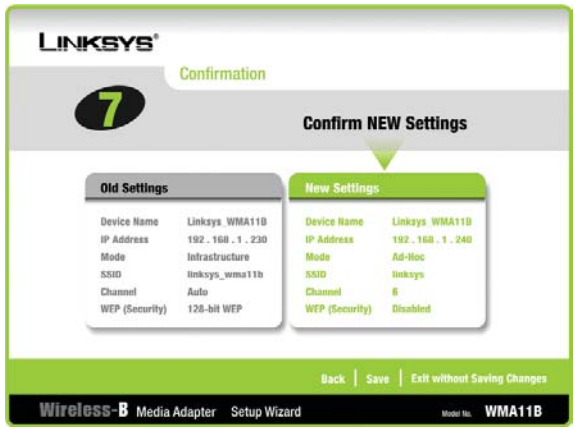

Figure 5-8

11. After the files have been successfully copied, the screen in Figure 5-9 will appear. Click the **Install Utility on PC** button to install the Adapter's Utility on your PC. This Utility will enable your PC to send digital images and music files to the Adapter. Click the **Exit** button if you want to install the Adapter's Utility later.

Figure 5-9

Proceed to "Chapter 6: Installing and Using the Wireless-B Media Adapter Utility."

Chapter 6: Installing and Using the Wireless-B Media Adapter Utility

Overview

This chapter will instruct you on how to install and use the Adapter's Utility on your Windows XP PC, which may also be referred to as the host computer. To use the Adapter, the Utility must be running on your computer. The Utility also allows you to easily designate folders that hold music and pictures for the Adapter.

Note: To install the Adapter's Utility, you must have administrative rights on your PC.

Installing the Adapter's Utility

Note: If Windows .NET Framework version 1.0 is not installed on your PC, then a screen will appear asking you to install it. Click **Next** to install .NET Framework version 1.0 and proceed with the installation of the Utility.

1. On the *Welcome* or *Congratulations* screen of the Setup Wizard, click the **Install Utility on PC** button.

2. The screen shown in Figure 6-1 will appear. Click the **Next** button.

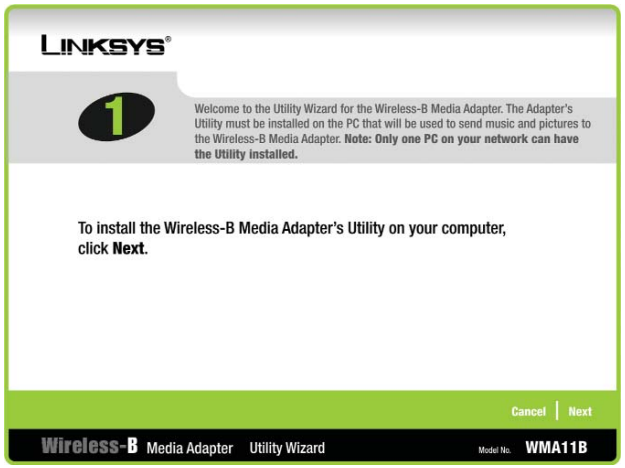

Figure 6-1

3. The *License Agreement* screen will appear. If you accept the Agreement, click the **Next** button to continue the installation. If you do not accept the Agreement, click the **Cancel** button and exit the Utility Wizard.

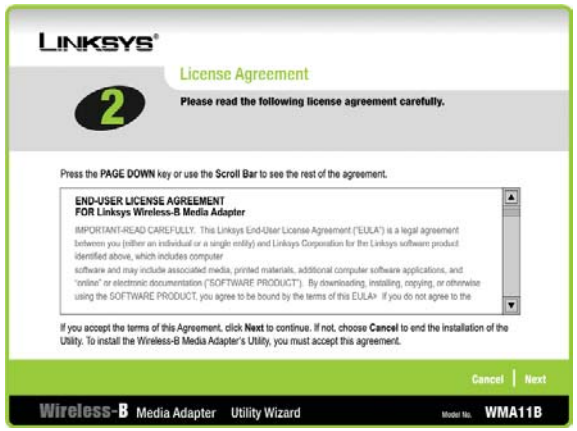

Figure 6-2

4. The *Select Music and Pictures Folders* screen will appear. To use the music and pictures held in the default folders, click the **Next** button. To use a different folder, click the **Add** button and follow the on-screen directions. To remove a folder, select it and click the **Remove** button. When you are finished, click the **Next** button.

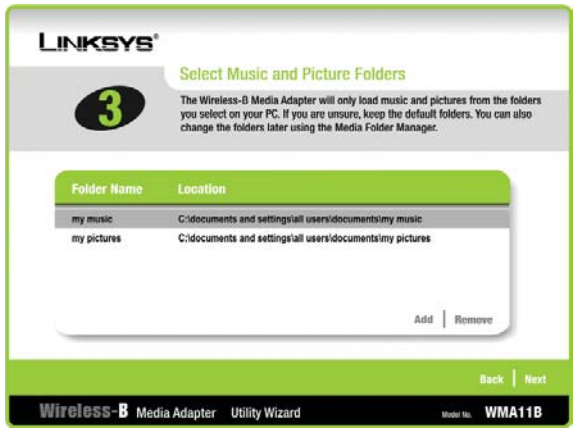

Figure 6-3

Note: If your host computer is configured for multiple users and you have access to their folders, then you can add each user's folders.

5. When you see the *Congratulations* screen, click the **Exit** button.

Figure 6-4

Note: The Utility can be installed on only one PC in your network.

Proceed to the next section, "Using the Adapter's Utility."

Using the Adapter's Utility

There are two ways to access the Utility, through your PC's taskbar or through its Start menu.

Using the Utility's Icon on Your PC's Taskbar

To access the Utility, right-click its icon on your PC's taskbar (see Figure 6-5).

Figure 6-5

You will see three choices: Media Folder Manager, About, and Exit (see Figure 6-6). Click **Media Folder Manager** to add or remove folders holding music and pictures. Click **About** to find out the version number of the Utility. Click **Exit** to close the Utility.

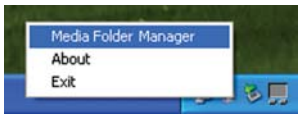

Figure 6-6

Note: If you close the Utility, then the Adapter will not work. If you need to re-start the Utility, click the **Start** button. Click **All Programs** and **Linksys Wireless-B Media Adapter**. Click **Adapter Utility** to restart the Utility.

Media Folder Manager

Click **Media Folder Manager** to open it. The *Media Folder Manager* screen will appear and list the current shared media folders (see Figure 6-7).

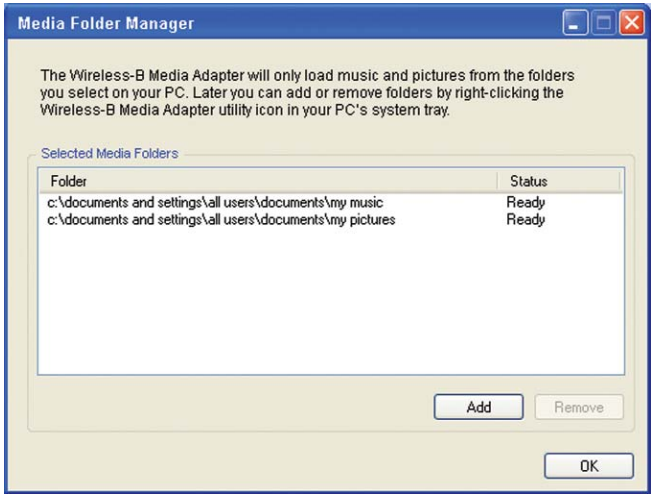

Figure 6-7

To add a folder:

1. Click the **Add** button.

2. On the *Browse for Folder* screen, shown in Figure 6-8, choose the folder you want to add, and click the **OK** button. To create a new folder, click the **Make New Folder** button and follow the on-screen instructions. Click the **Cancel** button to return to the *Media Folder Manager* screen without adding a folder.

3. When you are finished, click the **OK** button on the *Media Folder Manager* screen.

Figure 6-8

To remove a folder:

1. From the list of Selected Media Folders, select the folder you want to remove.

2. Click the **Remove** button.

3. When you are finished, click the **OK** button.

Using the Start Menu
To access the Utility, click the **Start** button. Click **All Programs** and **Linksys Wireless-B Media Adapter**.

You will see three choices: Adapter Utility, Media Folder Manager, and Uninstall (see Figure 6-9). Click **Adapter Utility** to restart the Utility. Click **Media Folder Manager** to add or remove folders holding music and pictures (see the "Media Folder Manager" section on the previous page for instructions). Click **Uninstall** to remove the Utility from your PC.

Figure 6-9

Proceed to "Chapter 7: Connecting the Wireless-B Media Adapter to Your TV and Stereo."

Chapter 7: Connecting the Wireless-B Media Adapter to Your TV and Stereo

Overview

This chapter will explain how to connect the Adapter to your TV (and stereo, if you have one). It will also describe how to set up the Adapter from the TV if you do not wish to run the Setup Wizard on a PC.

If you are using a stereo, go to the "Connecting to Your TV and Stereo" section. If you are not using a stereo, then you will connect your audio cables to your TV. Go to the "Connecting to Your TV Only" section.

Connecting to Your TV and Stereo

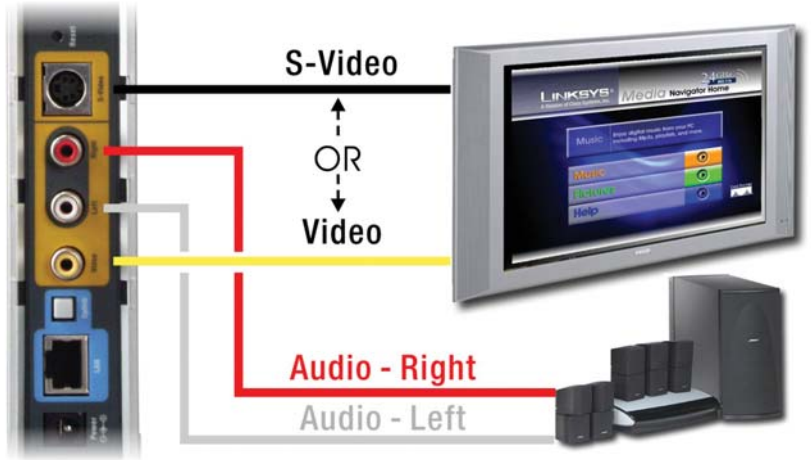

Figure 7-1

1. Power off the Adapter, and move it to your TV. If you are using a wireless network, make sure the Adapter's antenna is pointing straight up in the air. If you are using a wired network, make sure the cable connections remain secure.

2. Do one of the following:

   Connect the S-video cable to the Adapter's *S-video* port and the TV's *S-video in* port.

   OR

   Connect the yellow RCA connectors of the audio/video cable to the Adapter's *Video* port and the TV's *Video in* port.

3. Use the color-coded audio/video cable to connect the Adapter's *Left* and *Right* ports to the stereo's *Audio in* ports.

4. On your TV, select the input that matches the connection to the Adapter.

5. On your stereo, select the input that matches the connection to the Adapter.

6. Power on the Adapter. The main menu of the Media Navigator will appear on your TV.

Proceed to the "Placement Options" section.

Connecting to Your TV Only

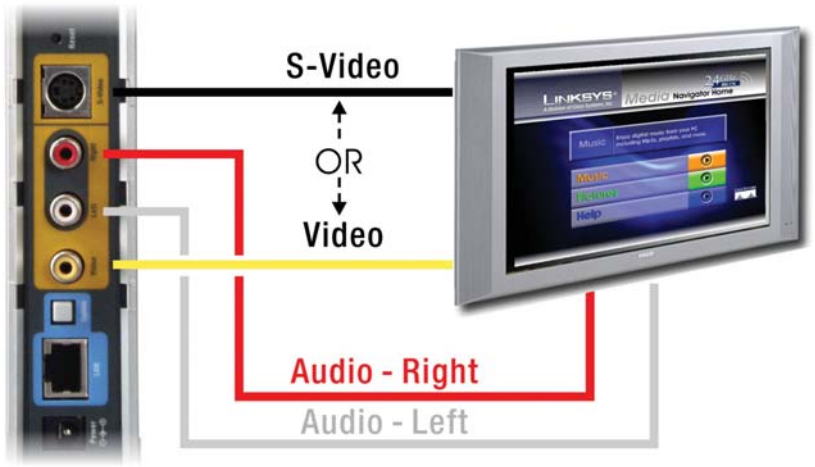

Figure 7-2

1. Power off the Adapter, and move it to your TV. If you are using a wireless network, make sure the Adapter's antenna is pointing straight up in the air. If you are using a wired network, make sure the cable connections remain secure.

2. Do one of the following:

   Connect the S-video cable to the Adapter's *S-video* port and the TV's *S-video in* port.

   OR

   Connect the yellow RCA connectors of the audio/video cable to the Adapter's *Video* port and the TV's *Video in* port.

3. Use the color-coded audio/video cable to connect the Adapter's *Left* and *Right* ports to the stereo's *Audio in* ports.

4. On your TV, select the input that matches the connection to the Adapter.

5. Power on the Adapter. The main menu of the Media Navigator will appear on your TV.

Proceed to the "Placement Options" section.

Placement Options

To protect the cables attached to the Adapter's back panel, snap the included cable hood into place. The dark gray section of the cable hood faces away from the antenna.

There are two ways to place the Adapter. The first way is to place the Adapter horizontally on a surface, so it sits on four small rubber feet.

The second way is to stand the Adapter vertically on a surface (see Figure 7-3). To use the stand option, follow these instructions:

Figure 7-3

1. The Adapter includes a base. Insert the end opposite to the antenna into the base.

2. Snap the Adapter into the base, so it fits snugly.

3. Place the Adapter in an appropriate location, and if necessary, adjust the antenna so that it points straight up in the air (see Figure 7-3).

If you have already set up the Adapter using the Setup Wizard, then proceed to "Chapter 8: Using the Media Navigator."

If you want to set up the Adapter from your TV, then proceed to the next section, "Using the TV Setup."

Using the TV Setup

If you haven't already done so, insert the included AAA batteries into the Remote Controller. For more information, see "Chapter 3: Getting to Know the Wireless-B Media Adapter and Its Remote Controller."

To use the TV Setup to set up the Adapter, follow these instructions:

1. After you have connected the Adapter to your TV and stereo, connect the included power adapter to the Power port of the Adapter.

2. Plug the power adapter into an electrical outlet.

3. When the message, "Please Wait", is displayed on your TV, press the **Setup** button on the remote. Then the *Media Adapter Setup* screen will appear (see Figure 7-4).

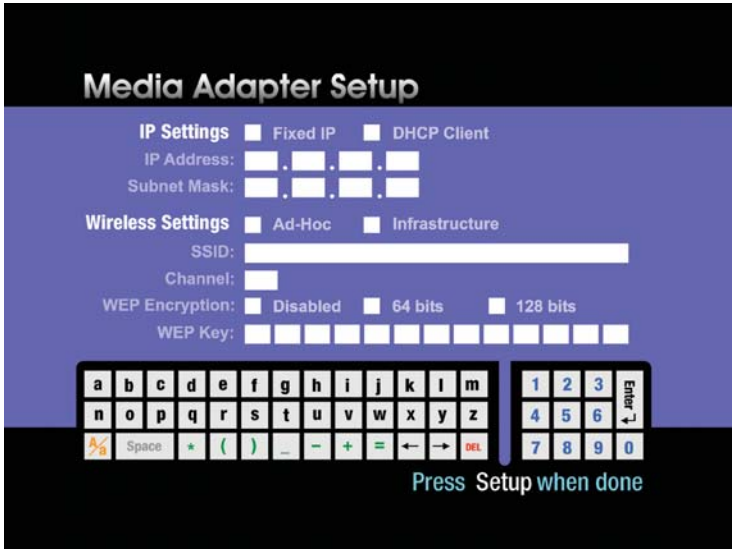

Figure 7-4

You have several settings to configure. To use the on-screen keyboard, press the **Select** button on the Remote Controller to move from the settings down to the keyboard. Then use the arrow buttons to move around the keyboard. To enter a character, select the character, and press the **Select** button on the Remote Controller. When you want to return to the settings, select the on-screen **Enter** key, and press the **Select** button on the Remote Controller.

When you have finished entering your settings, press the **Setup** button on the Remote Controller. The Adapter will save the settings and restart itself.

IP Settings
If the Adapter needs a static IP address, then select **Fixed IP**, and press the **Select** button. If the Adapter will be assigned an IP address automatically by your network router or other DHCP server, then select **DHCP Client**, and press the **Select** button.

IP Address and Subnet Mask
If you selected Fixed IP, then enter the IP Address and Subnet Mask for the Adapter in the *IP Address* and *Subnet Mask* fields.

Wireless Settings
If your wireless network uses ad-hoc mode, then select **Ad-Hoc**, and press the **Select** button. If your network uses infrastructure mode, then select **Infrastructure**, and press the **Select** button.

SSID
Enter the SSID or network name of your wireless network.

Channel
If your network uses ad-hoc mode, enter the channel setting of your wireless network.

WEP Encryption
If your network uses 64-bit encryption, then select **64 bits**, and press the **Select** button. If your network uses 128-bit encryption, then select **128 bits**, and press the **Select** button. If your network's WEP encryption is disabled, then select **Disabled**, and press the **Select** button.

WEP Key
If your network uses WEP encryption, then enter its WEP Key. If you are using 64-bit WEP encryption, then the key must consist of exactly 10 hexadecimal characters. If you are using 128-bit WEP encryption, then the key must consist of exactly 26 hexadecimal characters. Valid hexadecimal characters are "0"-"9" and "A"-"F".

When you have finished entering your settings, press the **Setup** button on the Remote Controller.

Proceed to "Chapter 8: Using the Media Navigator."

Chapter 8: Using the Media Navigator

Overview

This chapter explains how to use the Adapter via the Media Navigator. Sample tasks include:

- Choose Music
- Play Music
- Choose Pictures
- Start a Slideshow
- Start a Slideshow with Music

After you have set up the Adapter and connected it to your TV and stereo, the main menu will appear (see Figure 8-1).

Figure 8-1

The main menu has three choices:

- Music
- Pictures
- Help

If you haven't already done so, insert the included AAA batteries into the Remote Controller. For more information, see "Chapter 3: Getting to Know the Wireless-B Media Adapter and Its Remote Controller."

To navigate the menus of the Media Navigator, use the directional arrows on the remote. Press the **Select** button to make a selection. Press the **Menu** button to access the main menu at any time.

Music Menus

At any time, you can use the Music button on the remote to access the Music menu.

When you select the Music menu, you see three choices: Choose Music, Now Playing, and Options. See Figure 8-2.

Figure 8-2

Choose Music

The *Choose Music* screen, shown in Figure 8-3, lets you select the music you want to play, using a variety of sorting methods. Select music by artist or genre. You can also select music by folder or playlist. Depending on your folders and files, you will see additional screens offering the available choices. Press the **Select** button to make a selection.

Figure 8-3

Note: To use one of these sorting methods, your music files must be tagged with data such as artist or genre. If you need to add or edit tags, use your media player software and refer to its documentation.

All Songs

Select **All Songs** to play every song in your shared music folder (see Figure 8-4). This is useful if you have a small collection of MP3 and WMA files or if you want to hear all the songs in your digital music library.

Figure 8-4

Artists or Genres

If you want to play all the songs by a certain artist or all the songs of a certain genre (like jazz or classical), select **Artists** (see Figure 8-5) or **Genres**. If you choose an artist, then you will be asked to choose a specific album.

Figure 8-5

Playlists

To play certain songs in a specific sequence, choose a playlist (see Figure 8-6). This screen displays the playlists that you have placed in your computer's shared music folder.

The Adapter can play lists with the these two extensions, .M3U and .ASX.

After you create a playlist, place it in the shared music folder. See "Appendix B: Creating a Playlist" for more information.

Figure 8-6

Folders

If you sort by Folder, you will see all the songs in a given folder (see Figure 8-7). This is useful if you organize your music by folders on your computer.

Figure 8-7

Now Playing

The *Now Playing* screen, shown in Figure 8-8, shows the title, artist, and album of the song that is currently playing. You can switch songs using the Next or Back buttons on the remote.

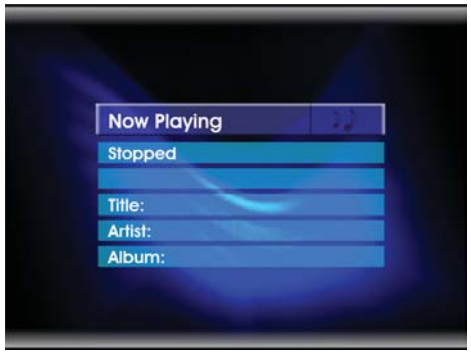

Figure 8-8

Play Music

After you set the options and select the music you want to hear, play the music by following these instructions:

1. Select **Music**.

2. Select the song (or **All Songs**) to play using the *Choose Music* menus.

3. Use the Play/Pause and Stop buttons on the remote to control music playback while you view the *Now Playing* menu on the TV. Use the Next and Back buttons on the remote to move between songs.

4. Press the **Options** button on the remote to view the *Music Options* screen at any time (see Figure 8-9). Then you can shuffle the playing order or repeat the selected songs.

Figure 8-9

Music Options

You can shuffle the playing order of songs you have selected and repeat the selections so that the music continues to play (see Figure 8-10). These options are global. In other words, you set them once and they remain in effect until you change the settings. Use the directional arrows on your remote to scroll through the settings for these options.

Figure 8-10

Shuffle

Shuffle the songs that you select, whether it is a folder of music, a genre, an artist, or a playlist. This feature plays the selected group of titles in a random sequence.

Note: If you select Shuffle, the listing that appears on the TV will not change; however, the songs will play in a random sequence.

Repeat

This option plays the selected songs repeatedly until you change the selection or until you stop the Adapter.

Back

Select **Back** to return to the previous screen.

Picture Menus

At any time, you can use the Pictures button on the remote to access the Pictures menu.

When you select the Pictures menu, you have three choices: Choose Pictures, Now Showing, or Options. See Figure 8-11.

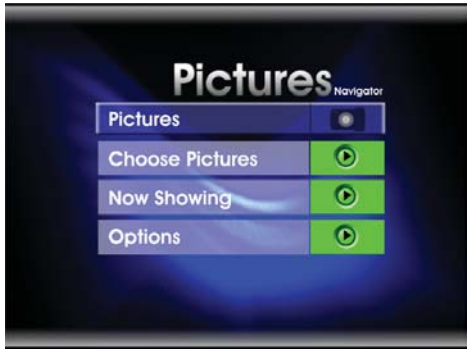

Figure 8-11

Choose Pictures

The *Choose Pictures* screen lets you select the pictures to view (see Figure 8-12). You can select All Pictures, which displays all the pictures in the shared picture folder. You can also sort pictures by their folder location on the host computer. After you make your selection, the *Now Showing* screen will automatically appear.

Figure 8-12

All Pictures

Select **All Pictures** to show every picture in your shared picture folder (see Figure 8-13). This is useful if you have a small collection of images.

Folders

If you sort by Folder, you will see all the images in a given folder. This is useful if you organize your pictures by folders on your computer.

Figure 8-13

Now Showing

The *Now Showing* screen, shown in Figure 8-14, displays thumbnail sketches of the selected pictures.

Figure 8-14

Play: slideshow

When you start a slideshow, all of the images in the selected folder will appear sequentially on your TV.

To start a slideshow:

1. From the *Choose Pictures* menu, select a folder to view or select **All Pictures**.

2. On the *Now Showing* screen, press the **Play/Pause** button on the remote.

3. Use the Play/Pause, Stop, Next, and Back buttons on the remote to control your slideshow.

4. Press the Options button to view the *Pictures Options* screen at any time. Then you can shuffle or repeat the slideshow.

To manually run a slideshow, use the left and right arrow buttons on the remote to change the pictures you are viewing. If a slideshow is running while you do this, then the word “Pause” appears on the upper left side of the screen.

To start a slideshow with music:

1. Press the **Music** button on the remote, and select **Choose Music**.

2. Select the song you want to play from the appropriate music menu.

3. Press the **Play** button on the remote to start the music.

4. Press the **Pictures** button on the remote.

5. Select **Choose Pictures**.

6. From the *Choose Pictures* menu, select a folder to view or select **All Pictures**.

7. On the *Now Showing* screen, press the **Play/Pause** button on the remote to start the slideshow.

Select: view picture
To view a full-screen image, press the **Select** button when the picture you want is highlighted. While you are looking at a full-screen image, use the Zoom buttons on the remote to view details of your picture or to zoom out.

Options: change settings
Press the **Options** button on your remote to change the slideshow settings.

Picture Options
You can shuffle the order of selected images, repeat the selections so that the slideshow continues until you stop it, and change the length of time each slide appears during a slideshow. The directional arrows on the remote let you scroll through the settings for these options. See Figure 8-15.

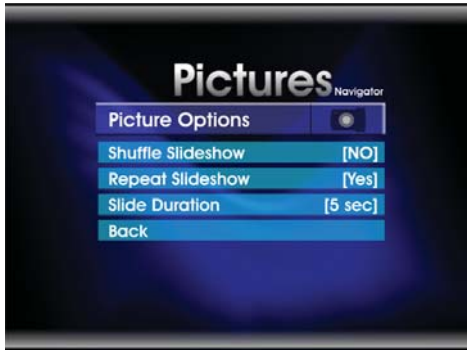

Figure 8-15

Shuffle Slideshow
This feature shows the selected pictures in a random sequence.

Note: If you select Shuffle, the list that appears on the TV does not change; however, the pictures will display in a random sequence.

Repeat Slideshow
This option displays the selected pictures repeatedly until you change the selection or until you stop the slideshow.

Slide Duration
You can change how long a slide remains onscreen during a slideshow. The default value is 5 seconds. Choices include 3, 5, 10, or 15 seconds.

Back
Select **Back** to return to the previous screen.

Help

For quick instructions on how to play your music files, start a slideshow, or use other features, select **Help** from the main menu (see Figure 8-16).

To move through the *Help* screens (one is shown in Figure 8-17), use the arrow buttons on the remote. Press the **Menu** button on the remote to return to the main menu.

Figure 8-16

Figure 8-17

Appendix A: Troubleshooting

This chapter provides solutions to problems that may occur during the installation and operation of the Wireless-B Media Adapter. Read the descriptions below to solve your problems. If you can't find an answer here, check the Linksys website at *www.linksys.com*.

Common Problems and Solutions

1. I have the Adapter connected to my TV, but nothing appears on my TV.

Go through this checklist:

- Check that the power cable is securely connected to both the electrical outlet and the Adapter.
- Press the Adapter's Power button to turn it off and on.
- Make sure the video or S-video cable is securely connected to the TV and the Adapter.
- Make sure that the TV channel matches the video input you selected for the connection to the Adapter.

2. I see a start-up message on the TV, but the main menu of the Media Navigator does not appear.

Go through this checklist:

- Reboot your PC.
- Power off the Adapter. Wait a few seconds, and then power on the Adapter.
- Make sure your network is working properly.
- If you are using a wireless connection, make sure the Adapter is within range of the wireless network. Check the Signal Strength percentage shown at the bottom of the TV. It should say 40% or higher to ensure successful communication. If the number is too low, consider moving your wireless access point or router closer to the Adapter.
- If you still encounter problems, check the Adapter's network settings and compare them to the settings on your wireless access point or router.

3. On my TV, the Choose Music or Choose Pictures menus are empty.

On your host computer, go to the shared folders that you had selected using the Utility Wizard. Make sure they contain compatible music files (MP3 or WMA) and/or image files (JPG, BMP, GIF, or TIF).

4. The music was running, but then it stopped playing.

Go through this checklist:

- Restart the Playlist using the remote and the TV.
- Restart the Adapter.
- Restart the host computer.
- Make sure the network is operating properly. Turn off and on any devices that are not working properly.
- Check the cable connections between the Adapter and the stereo or TV.
- If you are using a wired configuration, check the other cable connections to make sure that both ends are securely plugged in.
- If you are using a wireless configuration, check the wireless adapter in the host computer.

5. The picture won't change on the TV.

Go through this checklist:

- Press the Play button on the remote to start the slideshow.
- Reset the Adapter by pressing the Reset button and holding it in for 10 seconds.
- Check all cable connections to make sure that both ends are securely plugged in.
- Make sure the network is operating properly. Turn off and on any devices that are not working properly.
- Reboot the host computer.

5. When I pause a song, the Media Navigator does not respond. What should I do?

If you pause a song, you cannot move to either the previous or next selection. You must press the Play button first before making another selection.

Frequently Asked Questions

What types of picture files can I show with the Adapter?

The Adapter supports picture files with the following file extensions: BMP, GIF, JPG, and TIF. All of these file types are converted to JPG format when they appear on your TV, so some data loss may occur. This may affect image quality, so the image quality you see on your TV might not be as good as the image quality you see on your PC.

What types of music files can I play with the Adapter?

The Adapter supports MP3 and WMA files.

What types of playlist files can I use with the Adapter?

The Adapter supports ASX and M3U files. You can create a playlist with one of these extensions using software such as Music Match, Winamp, or Windows Media Player. For more information, see "Appendix B: Creating a Playlist."

I have multiple user accounts on my host computer. Can files from each user appear on the TV when I use the Adapter?

Yes. Add the media folders for each user to the shared folders list when you run the Utility Wizard or use the Utility on your host computer. See "Chapter 6: Installing and Using the Wireless-B Media Adapter Utility."

Can I play or show files from all the computers on the network using the Adapter?
No. You must move the files to the host computer so that the Adapter's Utility can access them.

Can I use a firewall in my configuration?
You might find that the host computer and the Adapter cannot communicate through a firewall. Please disable your Windows XP firewall on the host computer before you install the Adapter. If you use a third-party firewall on your home network that is located between the host computer and the Adapter, then you must either disable it or configure it to accept the Adapter before installation. You might want to install a hardware firewall to protect your home network from Internet intruders before you install the Adapter.

What happens when I set up shared media folders with lots of data to share?
Sharing a large shared media folder may take some time, depending on the speed of the host computer. You can access whatever media that is already shared while you wait.

Why are the songs playing in a different order than what I see on the TV menu?
If you select the Shuffle option for a playlist, the Adapter shuffles the songs as it plays them. However, the playlist that appears on the TV menu does not reflect the shuffle. Instead, it continues to show the original playlist order.

What happens if the connection between the Adapter and the host computer is lost?
If the connection is completely lost, then the pictures or music stop after the 20-second buffer finishes playing.

The main menu will appear again when the connection is restored. If it does not, power the Adapter off and back on again.

What happens if my playlist is extremely long?
If you select more than 1,000 songs to play, it will take a few seconds for the first song to start playing.

Can I play music from a CD using the Adapter?
Yes, if the CD contains MP3 or WMA files. You cannot play standard audio CDs through the Adapter.

What is the best image file type to use for quick performance?
Using the JPG file type will give you the quickest playback.

What is the IEEE 802.11b standard?
It is one of the IEEE standards for wireless networks. The 802.11b standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11b standard. The 802.11b standard states a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

What IEEE 802.11b features are supported?
The product supports the following IEEE 802.11b functions:

- CSMA/CA plus Acknowledge protocol
- Multi-Channel Roaming
- Automatic Rate Selection
- RTS/CTS feature
- Fragmentation
- Power Management

What is ad-hoc mode?
When a wireless network is set to ad-hoc mode, the wireless-equipped computers are configured to communicate directly with each other. The ad-hoc wireless network will not communicate with any wired network.

What is infrastructure mode?
When a wireless network is set to infrastructure mode, the wireless network is configured to communicate with a wired network through a wireless access point.

Appendix B: Creating a Playlist

A playlist tells the Adapter to play your music files in a specific sequence. You can use a playlist with either of these file extensions, .M3U and .ASX.

You can use any software that exports a playlist with one of these two extensions. For example, Windows Media Player is included with Windows XP. Follow these instructions to create a playlist in Windows Media Player:

1. Open **Windows Media Player** on the host computer.
2. Click **Media Library**.
3. Click **File** and then **Open** to find MP3 files on your computer.
4. Click **New Playlist**.
5. Enter a name for the Playlist, and click the **OK** button. The new Playlist appears on the left.
6. Select the songs you want, and drag them to the Playlist's name on the left.
7. Drag and drop the songs to arrange them in the order you want them to play.

Note: You must place any playlist and its music files in a shared media folder for use by the Adapter.

Follow these instructions to export a playlist to a file:

1. Select **Playlist**.
2. Click **File** and then **Export Playlist to File**.
3. Enter a file name, and click **Save**.
4. Place the Playlist in a shared folder.

Appendix C: Setting a Static IP Address on Your PC

If you need to set a static IP address on your Windows XP computer, then use the following instructions.

1. If your computer uses the default interface, then click the **Start** button. Click **Connect To** and then **Show all connections**. See Figure C-1.

   If your computer uses the Classic interface, then click the **Start** button. Click **Settings** and then **Network Connections**. See Figure C-2.

Figure C-1

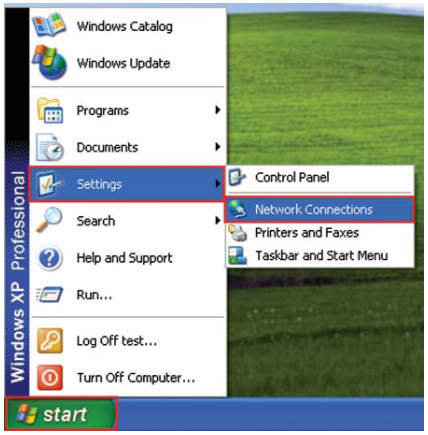

Figure C-2

2. Right-click the network connection you are using to communicate with the Adapter. Then click **Properties**. See Figure C-3.

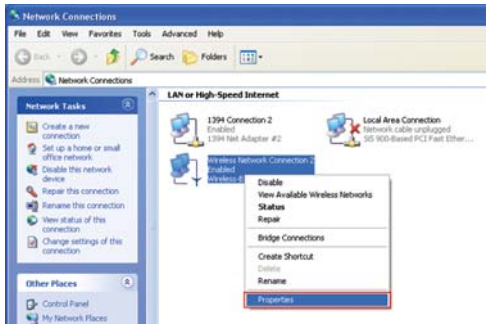

Figure C-3

3. On the *General* tab, select **Internet Protocol (TCP/IP)**. Then click the **Properties** button. See Figure C-4.

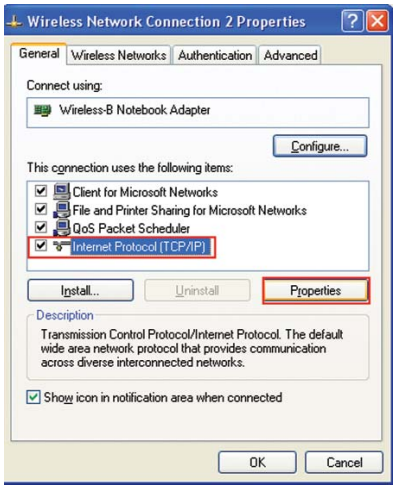

Figure C-4

4. Click the radio button next to *Use the following IP address*. Complete the *IP address* and *Subnet mask* fields with the appropriate information. Then click the **OK** button. See Figure C-5.

5. Click the **OK** button again. See Figure C-6.

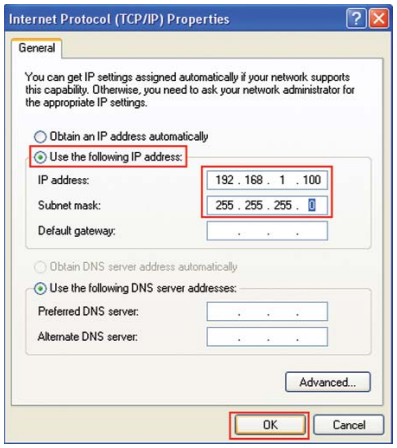

Figure C-5

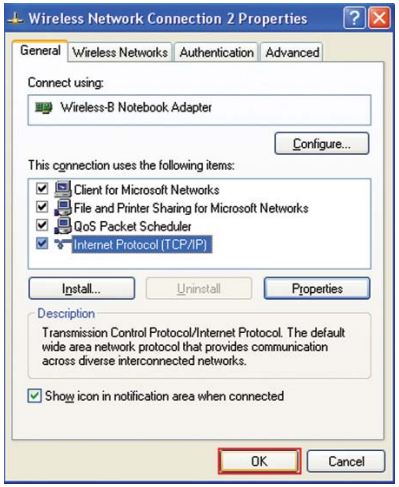

Figure C-6

Appendix D: Glossary

802.11b - One of the IEEE standards for wireless networking hardware. Products that adhere to a specific IEEE standard will work with each other, even if they are manufactured by different companies. The 802.11b standard specifies a maximum data transfer rate of 11Mbps, an operating frequency of 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.

Adapter - Printed circuit board that plugs into a PC to add to capabilities or connectivity to a PC. In a networked environment, a network interface card is the typical adapter that allows the PC or server to connect to the intranet and/or Internet.

Ad-hoc Network - An ad-hoc network is a group of computers, each with a wireless adapter, connected as an independent 802.11 wireless LAN. Ad-hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point.

Bandwidth - The transmission capacity of a given facility, in terms of how much data the facility can transmit in a fixed amount of time; expressed in bits per second (bps).

Bit - A binary digit. The value—0 or 1—used in the binary numbering system. Also, the smallest form of data.

CardBus - A high-speed peripherals interface for notebook PCs that delivers 32-bit performance based on PCI bus architecture.

CSMA/CA (**C**arrier **S**ense **M**ultiple **A**ccess/**C**ollision **A**voidance) - In local area networking, this is the CSMA technique that combines slotted time-division multiplexing with carrier sense multiple access/collision detection (CSMA/CD) to avoid having collisions occur a second time.

CTS (**C**lear **T**o **S**end) - An RS-232 signal sent from the receiving station to the transmitting station that indicates it is ready to accept data.

Default Gateway - The routing device used to forward all traffic that is not addressed to a station within the local subnet.

DHCP (**D**ynamic **H**ost **C**onfiguration **P**rotocol) - A protocol that lets network administrators manage centrally and automate the assignment of Internet Protocol (IP) addresses in an organization's network. Using the Internet's set of protocol (TCP/IP), each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

DHCP uses the concept of a “lease” or amount of time that a given IP address will be valid for a computer. The lease time can vary depending on how long a user is likely to require the Internet connection at a particular location. It's especially useful in education and other environments where users change frequently. Using very short leases, DHCP can dynamically reconfigure networks in which there are more computers than there are available IP addresses.

DHCP supports static addresses for computers containing Web servers that need a permanent IP address.

DNS - The domain name system (DNS) is the way that Internet domain name are located and translated into Internet Protocol (IP) addresses. A domain name is a meaningful and easy-to-remember “handle” for an Internet address.

Domain - A subnetwork comprised of a group of clients and servers under the control of one security database. Dividing LANs into domains improves performance and security.

Driver - A workstation or server software module that provides an interface between a network interface card and the protocol software running in the computer; it is designed for a specific device, and is installed during the initial installation of a network-compatible client or server operating system.

DSSS (**D**irect-**S**equence **S**pread **S**pectrum) - DSSS generates a redundant bit pattern for all data transmitted. This bit pattern is called a chip (or chipping code). Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the receiver can recover the original data without the need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers. However, to an intended receiver (i.e., another wireless LAN end-

point), the DSSS signal is recognized as the only valid signal, and interference is inherently rejected (ignored).

Encryption - A security method that applies a specific algorithm to data in order to alter the data's appearance and prevent other devices from reading the information.

Ethernet - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Has a transfer rate of 10 Mbps. Forms the underlying transport vehicle used by several upper-level protocols, including TCP/IP and XNS.

FHSS (**F**requency **H**opping **S**pread **S**pectrum) - FHSS continuously changes (hops) the carrier frequency of a conventional carrier several times per second according to a pseudo-random set of channels. Because a fixed frequency is not used, and only the transmitter and receiver know the hop patterns, interception of FHSS is extremely difficult.

Fragmentation - Breaking a data into smaller units when transmitting over a network medium that cannot support the original size of the data.

Gateway - A device that interconnects networks with different, incompatible communications protocols.

Hardware - Hardware is the physical aspect of computers, telecommunications, and other information technology devices. The term arose as a way to distinguish the “box” and the electronic circuitry and components of a computer from the program you put in it to make it do things. The program came to be known as the software.

Hop - The link between two network nodes.

IEEE (The **I**nstitute of **E**lectrical and **E**lectronics **E**ngineers) - The IEEE describes itself as “the world’s largest technical professional society, promoting the development and application of electrotechnology and allied sciences for the benefit of humanity, the advancement of the profession, and the well-being of our members.”

The IEEE fosters the development of standards that often become national and international standards. The organization publishes a number of journals, has many local chapters, and several large societies in special areas, such as the IEEE Computer Society.

Infrastructure Network - An infrastructure network is a group of computers or other devices, each with a wireless adapter, connected as an 802.11 wireless LAN. In infrastructure mode, the wireless devices communicate with each other and to a wired network by first going through an access point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set. A set of two or more BSS in a single network is referred to as an Extended Service Set. Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless networks.

IP (**I**nternet **P**rotocol) - The method or protocol by which data is sent from one computer to another on the Internet. It is a standard set of rules, procedures, or conventions relating to the format and timing of data transmission between two computers that they must accept and use to be able to understand each other.

IP Address - In the most widely installed level of the Internet Protocol (IP) today, an IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent across the Internet. When you request an HTML page or send e-mail, the Internet Protocol part of TCP/IP includes your IP address in the message and sends it to the IP address that is obtained by looking up the domain name in the Uniform Resource Locator you requested or in the e-mail address you're sending a note to. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.

IRQ (**I**nterrupt **R**eQuest) - A hardware interrupt on a PC. There are 16 IRQ lines used to signal the CPU that a peripheral event has started or terminated. Except for PCI devices, two devices cannot use the same line.

ISM band - The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

ISP (**I**nternet **S**ervice **P**rovider) - A company that provides individuals and companies access to the Internet and other related services such as Web site building and virtual hosting.

LAN (**L**ocal **A**rea **N**etwork) - A group of computers and associated devices that share a common communications line and typically share the resources of a single processor or server within a small geographic area (for example, within an office building).

MAC (**M**edia **A**ccess **C**ontrol) **Address** - A unique number assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level.

Mbps (**M**ega**b**its **p**er **s**econd) - One million bits per second; unit of measurement for data transmission.

Network - A system that transmits any combination of voice, video and/or data between users.

Notebook (PC) - A notebook computer is a battery-powered personal computer generally smaller than a briefcase that can easily be transported and conveniently used in temporary spaces such as on airplanes, in libraries, temporary offices, and at meetings. A notebook computer, sometimes called a laptop computer, typically weighs less than five pounds and is three inches or less in thickness.

Passphrase - Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

PC Card - A credit-card sized removable module that contains memory, I/O, or a hard disk.

PCI (**P**eripheral **C**omponent **I**nterconnect) - A peripheral bus commonly used in PCs, Macintoshes and workstations. It was designed primarily by Intel and first appeared on PCs in late 1993. PCI provides a high-speed data path between the CPU and peripheral devices (video, disk, network, etc.). There are typically three or four PCI slots on the motherboard. In a Pentium PC, there is generally a mix of PCI and ISA slots or PCI and EISA slots. Early on, the PCI bus was known as a "local bus."

PCI provides "plug and play" capability, automatically configuring the PCI cards at startup. When PCI is used with the ISA bus, the only thing that is generally required is to indicate in the CMOS memory which IRQs are already in use by ISA cards. PCI takes care of the rest.

PCI allows IRQs to be shared, which helps to solve the problem of limited IRQs available on a PC. For example, if there were only one IRQ left over after ISA devices were given their required IRQs, all PCI devices could share it. In a PCI-only machine, there cannot be insufficient IRQs, as all can be shared.

Roaming - In an infrastructure mode wireless network, this refers to the ability to move out of one access point's range and into another and transparently reassociate and reauthenticate to the new access point. This reassociation and reauthentication should occur without user intervention and ideally without interruption to network connectivity. A typical scenario would be a location with multiple access points, where users can physically relocate from one area to another and easily maintain connectivity.

RTS (**R**equest **T**o **S**end) - An RS-232 signal sent from the transmitting station to the receiving station requesting permission to transmit.

Server - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

Software - Instructions for the computer. A series of instructions that performs a particular task is called a "program." The two major categories of software are "system software" and "application software." System software is made up of control programs such as the operating system and database management system (DBMS). Application software is any program that processes data for the user.

A common misconception is that software is data. It is not. Software tells the hardware how to process the data.

Spread Spectrum - Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).

SSID (**S**ervice **S**et **ID**entifier) - A unique name shared among all points in a wireless network. The SSID must be identical for each point in the wireless network and is case-sensitive.

Subnet Mask - The method used for splitting IP networks into a series of subgroups, or subnets. The mask is a binary pattern that is matched up with the IP address to turn part of the host ID address field into a field for subnets.

TCP (**T**ransmission **C**ontrol **P**rotocol) - A method (protocol) used along with the IP (Internet Protocol) to send data in the form of message units (datagram) between network devices over a LAN or WAN. While IP takes care of handling the actual delivery of the data (routing), TCP takes care of keeping track of the individual units of data (called packets) that a message is divided into for efficient delivery over the network. TCP is known as a "connection oriented" protocol due to requiring the receiver of a packet to return an acknowledgment of receipt to the sender of the packet resulting in transmission control.

TCP/IP (**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol) - The basic communication language or set of protocols for communications over a network (developed specifically for the Internet). TCP/IP defines a suite or group of protocols and not only TCP and IP.

Topology - A network's topology is a logical characterization of how the devices on the network are connected and the distances between them. The most common network devices include hubs, switches, routers, and gateways. Most large networks contain several levels of interconnection, the most important of which include edge connections, backbone connections, and wide-area connections.

WAN (**W**ide **A**rea **N**etwork) - A communications network that covers a relatively large geographic area, consisting of two or more LANs. Broadband communication over the WAN is often through public networks such as the telephone (DSL) or cable systems, or through leased lines or satellites. In its most basic definition, the Internet could be considered a WAN.

WEP (**W**ired **E**quivalent **P**rivacy) - A data privacy mechanism based on a 64-bit or 128-bit shared key algorithm, as described in the IEEE 802.11 standard.

WLAN (**W**ireless **L**ocal **A**rea **N**etwork) - A group of computers and associated devices that communicate with each other wirelessly.

Appendix E: Specifications

Standards	IEEE 802.11b, IEEE 802.3, IEEE 802.3u
Ports	1 10/100 RJ-45 Port, Power Port, S-Video Output, Composite Video Output, RCA Audio Output
Buttons	Power, Uplink
Channels	802.11b 11 Channels (US, Canada) 13 Channels (Europe) 14 Channels (Japan)
LEDs	Ready, Wireless, Ethernet
Transmitted Power	16 dBm
Receive Sensitivity (typical)	-82 dBm @ 11Mbps -85 dBm @ 5.5Mbps -89 dBm @ 2Mbps -91 dBm @ 1Mbps
Peak Gain of the Antenna	1.5 dBi
Security Features	WEP Encryption
WEP Key Bits	64, 128-bit

Environmental	
Dimensions	6.30" x 7.48" x 1.97" (160 mm x 190 mm x 50 mm)
Unit Weight	13.05 oz. (0.37 kg)
Power	External, 5V DC, 2.0 A
Certifications	FCC
Operating Temp.	0°C to 60°C (32°F to 140°F)
Storage Temp.	0°C to 85°C (32°F to 185°F)
Operating Humidity	10% to 85%, Non-Condensing
Storage Humidity	5% to 90%, Non-Condensing

Appendix F: Warranty Information

BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BARCODE FROM THE PRODUCT'S PACKAGING ON HAND WHEN CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE.

IN NO EVENT SHALL LINKSYS' LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, OR ITS DOCUMENTATION. LINKSYS DOES NOT OFFER REFUNDS FOR ANY PRODUCT.

LINKSYS OFFERS CROSS SHIPMENTS, A FASTER PROCESS FOR PROCESSING AND RECEIVING YOUR REPLACEMENT. LINKSYS PAYS FOR UPS GROUND ONLY. ALL CUSTOMERS LOCATED OUTSIDE OF THE UNITED STATES OF AMERICA AND CANADA SHALL BE HELD RESPONSIBLE FOR SHIPPING AND HANDLING CHARGES. PLEASE CALL LINKSYS FOR MORE DETAILS.

Appendix G: Contact Information

For help with the installation or operation of the Wireless-B Media Adapter, contact Linksys Technical Support at one of the phone numbers or Internet addresses below.

Sales Information	800-546-5797 (LINKSYS)
Technical Support	800-326-7114
RMA (Return Merchandise Authorization) Issues	www.linksys.com (or call 949-271-5461)
Fax	949-265-6655
E-mail	support@linksys.com
Web	http://www.linksys.com
FTP Site	ftp.linksys.com

LINKSYS®

http://www.linksys.com